

# Enhancing the Planning Process through Science and Adaptive Management

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## Abstract

The paper outlines the results of an environmental planning research project that examined various planning processes utilised by private and public sector managers for the development of plans, policies and management actions seeking community water quality objectives for a region's waterways and coastal embayments. The planning agents included:

- Local government in the preparation of their statutory planning schemes and their environmental policies;
- State government agencies in the preparation of plans and policies; and
- Landowners (Freehold tenure) in the preparation of property management plans.

A generic cyclic planning process comprising two distinct phases, a plan-making phase and a plan-implementation phase, has been proposed. The latter phase includes an adaptive management approach that facilitates broader community involvement in the planning process. The project has also raised the notion of the introduction of civic science into the planning process alongside of the greater utilisation of conventional science. In this latter regard, the project has developed "roadmaps" for the enhancement of a range of statutory and voluntary planning tools through the incorporation of biophysical science.

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Criticism of traditional planning's failure to respond to recent past and contemporary environmental challenges has come both from within and from outside of the planning profession (Klosterman 1996; Taylor 1998; Kenny and Meadowcroft 1999; Herring, 1999; Conacher and Conacher 2000). Criticism has included its physical and design bias, the dominance of an urban orientation and economic efficiency objectives, its lack of an environmental ethic, the lack of a scientific basis, its focus on static, end-state, "blueprint/master" planning approaches, its non-integrated, fragmented "command & control" approach to management, and its idealised planning process devoid of political realities and changing community priorities. Hence the challenge for the planning and allied fields is how to reinvent planning practice in order to adequately address the emergent environmental management challenges.

Recent research of the environmental planning project of the Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management (CRC CZEWM), and other research by the author has sought to make a contribution to these emergent needs for improved processes of environmental and landscape management. This work has examined various planning processes utilised by private and public sector managers for the development of plans, policies and management actions seeking community water quality objectives for a region's waterways and coastal embayments. It drew on case studies of various planning agents operating in SE Queensland, Australia. These planning agents included:

- Local government with statutory responsibilities for the preparation of statutory planning schemes and a range of environmental policies.
- State government agencies with statutory responsibilities for the preparation of plans and policies in their areas of responsibility.
- Private landowners (Freehold tenure) in the voluntary preparation of property management plans.

Working within the broader context of the South East Queensland Regional Water Quality Management Strategy (SEQRWQMS) and to the ongoing work of the Moreton Bay Waterways and Catchment Partnership (MBWCP), the CRC CZEWM project responded to the following research objectives:

- *To derive effective environmental planning tools for comprehensive, integrated strategic planning for the SEQ Region consistent with existing legislation.*
- *To determine improved cooperative mechanisms and arrangements within existing frameworks for effective environmental planning and management in the SEQ Region.*
- *To derive appropriate and practical methods for incorporating the scientific information, environmental values and water quality objectives and agreed management actions from the SEQRWQMS into performance-based planning,*

*including the Integrated Planning Act, Environmental Protection Act, Water Act, other relevant legislation and voluntary mechanisms.*

The main outcomes relevant to the themes of this conference ranged from generic recommendations to planning specific scientifically enhanced planning tools. A principal generic recommendation called for the establishment of a “Planning-Science Forum” in order to provide:

- Dialogue between scientists and planners.
- Technical coordination for integration of science into planning.
- Opportunities and processes for identifying the scientific information to support planning.

**The need for an integrated (collaborative) approach:** The SE Queensland landscape is a fragmented, multi-tenured arrangement comprising 84% freehold land with only 16% remaining in the public estate as state and leasehold lands. This has resulted in a patchwork of fragmented administration and management arrangements for land use and environment and resource use. The SE Queensland landscape is typical of most landscapes in Australia, Canada, and the United States that share a common past in terms of governance, administration, and institutional arrangements for land use and environmental planning and management. In response to these management challenges, the study has proposed a holistic and integrated environmental planning approach that addressed the relationship between land tenure and state planning and management control in a manner that acknowledged the emergent paradigms of collaborative planning and management.

**A tiered framework of scientifically enhanced planning tools:** The research also addressed the need for a framework that facilitated the application of a suite of complimentary planning tools across a natural landscape such as a drainage catchment in an integrated and consistent manner. This would be achieved within a tiered framework that was consistent with the planning and management responsibilities commensurate with land tenure and ownership rights and responsibilities.

This framework was supported by the development of “roadmaps” for the enhancement of a range of statutory and voluntary planning tools through the incorporation of biophysical science. The planning tools examined included:

- Statutory town planning scheme tools.
- Industry environmental codes of practice (voluntary).
- Property management plans (voluntary).
- Urban stormwater quality management plans.
- Extractive industries management tools.
- Economic tools for non-regulatory management.

**An enhanced planning process:** It was observed that there was a strong tendency for most planning initiatives to concentrate only on part of the planning process—ie the “front-end” involving the initial plan making aspects. Very little attention in both detail consideration and action was devoted to the plan implementation aspects—in some cases it often became the responsibility of another agent. A further outcome of this work has been the articulation of the need for the adoption of an improved and complete planning process. This would acknowledge that the generic cyclic planning process comprised two distinct phases, a plan-making phase and a plan-implementation phase. Further enhancement to this generic planning process was proposed through the incorporation of an adaptive management framework into the plan-implementation phase.

The enhancement of this latter phase also included an approach that facilitated broader community involvement in the planning process. It raised the notion of the introduction of civic science into the planning process alongside of the greater utilisation of conventional science.

A way ahead has been developed that proposes an integrated (collaborative) approach to landscape management that utilises a tiered framework of scientifically enhanced planning tools. This will be achieved through the adoption of a cyclic planning process enhanced through the incorporation of an adaptive management framework and civic science alongside the greater use of conventional science, particularly embedded into the range of statutory and voluntary planning tools in general use.

These measures should go some way to addressing the contemporary and emergent landscape management challenges and consequently regain public confidence in planning.

The specific outcomes of the CRC CZEWMs environmental planning project are contained in four volumes (see Low Choy et al 2002a&b and Worrall et al 2002a&b).

Further details on the CRC CZEWMs environmental planning research can be accessed via:  
<http://www.coastal.crc.org.au/planning>

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